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No. 6110

May 13, 1881 - June 12, 1889

THE
SIXTEENTH ANNUAL REPORT
OF THE
BOARD OF DIRECTORS
OF THE
ZOOLOGICAL SOCIETY
OF PHILADELPHIA.

(INCORPORATED MARCH 21ST, 1859.)

READ AT THE ANNUAL MEETING OF THE MEMBERS AND LOAN-
HOLDERS OF THE SOCIETY,

APRIL 26TH, 1888.

PHILADELPHIA :
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1888.

THE
ZOOLOGICAL SOCIETY OF PHILADELPHIA.

OFFICE, FAIRMOUNT PARK.

OFFICERS FOR THE YEAR ENDING APRIL 25TH, 1889.

PRESIDENT,
FREDERIC GRAFF.

VICE-PRESIDENTS:
GEORGE W. CHILDS, J. VAUGHAN MERRICK.

SECRETARY,
THOMAS HOCKLEY.

TREASURER,
WILLIAM HACKER.

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HENRY C. GIBSON,	CHARLES PLATT,
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CHARLES W. TROTTER,	HENRY T. COATES,
PROF. JOSEPH LEIDY,	FRANCIS W. LEWIS, M.D.

ACTUARY,
CHARLES L. JEFFERSON.

SUPERINTENDENT OF THE GARDEN,
ARTHUR E. BROWN.

SOLICITORS:
SAMUEL WAGNER, WM. W. MONTGOMERY.

REPORT

OF THE

BOARD OF DIRECTORS.

PHILADELPHIA, April 26th, 1888.

THE Board of Directors of the Zoological Society of Philadelphia, submit to the members and loan-certificate holders, their Sixteenth Annual Report of the business and operations of the Society from 1st March, 1887, to 1st March, 1888.

MEMBERS.

The number of members on 1st March, 1888, was—

Annual members	901
Life members	844
Corresponding members	8
Honorary members	13
Perpetual members	93

Total members (exclusive of loan-holders) . . 1859

Five hundred and sixty-eight annual members have been added since the last report. This large increase of membership is a cause of congratulation, and it seems probable that the number of annual members will very shortly reach 1000.

The present number is the largest in the history of the Society, having nearly trebled since the last year.

The efforts to secure the loan of the Society in accordance with the plan mentioned in the last annual report are being continued with success. It will be remembered that all of the loan so secured is held in trust, and is not to be canceled until the entire issue is received. The Directors hope that the whole may be thus obtained in a short time, and they again appeal to the public spirit of the loan-holders, and of the citizens of Philadelphia, for assistance in accomplishing this end.

The importance of increasing the permanent fund be-

comes more urgent each year. Many repairs in the Garden and additions to the collection should now be made, but there is no income for this purpose.

The following is a report, in detail, of the admissions and receipts for the year :—

Adults (paying twenty-five cents at gates)	124,833
Children (paying ten cents at gates)	32,700
Members (including Life and Annual Members, loan-holders' annual, and complimentary annual tickets)	2,540
Loan-holders' single tickets	25,997
Free admissions (charitable institutions, donors' tickets, &c.)	2,396
Coupon tickets	4,787
Excursion tickets	12,793
	<hr/> 206,046 <hr/>

Monthly Record of Visitors for 1887-88, with corresponding account for 1886-87.

MONTH.	1886-87.	1887-88.	COMPARISON.
March	6,687	7,532	Increase . . 845
April	12,682	16,601	" . . 3,919
May	20,509	24,293	" . . 3,784
June	19,496	20,153	" . . 657
July	28,371	23,277	Decrease . . 5,094
August	34,492	32,133	" . . 2,359
September	30,044	37,675	Increase . . 7,631
October	22,204	19,095	Decrease . . 3,109
November	9,298	10,436	Increase . . 1,138
December	3,947	5,872	" . . 1,925
January	4,250	3,402	Decrease . . 848
February	4,054	5,577	Increase . . 1,523
	<hr/> 196,034	<hr/> 206,046	<hr/> Increase . . 10,012 <hr/>

Average daily admissions 563
 The greatest number of visitors on any one day was
 on Sunday, September 18th 6,772

*Monthly Record of Receipts from Admissions for 1887-88, with
corresponding account for 1886-87.*

MONTH.	1886-87.	1887-88.	COMPARISON.
March . . .	\$1,327 24	\$1,449 21	Increase . \$121 97
April . . .	2,258 88	2,950 64	" . 691 76
May . . .	3,382 34	4,073 81	" . 691 47
June . . .	3,000 92	3,161 36	" . 160 44
July . . .	4,404 11	3,881 19	Decrease . 522 92
August . .	5,548 53	5,290 31	" . 258 22
September .	5,695 72	8,005 20	Increase . 2,309 48
October . .	4,366 03	3,853 41	Decrease . 512 62
November .	1,815 21	1,980 69	Increase . 165 48
December .	811 71	1,153 88	" . 342 17
January . .	854 59	651 03	Decrease . 203 56
February .	747 92	1,083 23	Increase . 335 31
	\$34,213 20	\$37,533 96	Increase . \$3,320 76

Average daily receipts from admissions \$102 55

The largest amount of receipts at the gates on any

one day was on Sunday, September 18th . . . \$1,500 40

*Total Receipts on the several days of the week, and their respective
averages, for 1887-88.*

RANK.	DAYS.	TOTAL RECEIPTS.	AVERAGE.
1	Sunday	\$17,137 89	\$329 58
2	Saturday	4,434 61	85 28
3	Monday	4,406 69	84 74
4	Friday	3,153 45	60 64
5	Thursday	3,056 67	58 78
6	Wednesday	3,073 62	57 99
7	Tuesday	2,271 03	42 85
		\$37,533 96	

The financial condition of the Society is fully shown in the Treasurer's statement, Appendix A, and the report of the General Superintendent, Appendix B, shows the present condition of the menagerie and the details attending the operation of the Garden during the year.

The Board desires to express its thanks for the many donations of animals which have been received.

By order of the Board,

THOMAS HOCKLEY,
Secretary.

INCOME AND EXPENDITURES.

For the fiscal year ending March 1st, 1888.

INCOME.

Members' fees and dues,	\$4,230 00	
Admission receipts	37,533 96	
Rents at Garden	1,200 00	
Sale of Guide Books	259 35	
Interest, discount, &c.	790 81	
Sundry receipts	631 23	
	<hr/>	\$44,645 35
Salaries and wages	\$17,358 79	
Office expenses	84 53	
General expenses	15,520 56	
	<hr/>	\$32,963 88
Estimated loss on animals	4,507 20	
Depreciation on permanent improvements	6,278 52	
Balance to credit of profit and loss for year	895 75	
	<hr/>	\$44,645 35

CAPITAL.

Receipts and Expenditures for the year ending March 1st, 1888.

RECEIPTS.

Life memberships	\$150 00	
Sales of animals	415 00	
Add the following amounts charged to profit and loss for estimated loss on animals	4,507 20	
Depreciation on permanent improvements	6,278 52	
	<hr/>	\$11,350 72

EXPENDITURES.

Permanent improvements and animals as per items in Treasurer's statement (Appendix A), \$3,965 82		
Balance (being excess of investments over re- ceipts of capital, and provided from Profit and Loss)	7,284 90	
	<hr/>	\$11,350 72

APPENDIX A.

TREASURER'S STATEMENT.

From March 1st, 1887, to March 1st, 1888.

	Dr.	
To Balance March 1st, 1887		\$12,411 34
" Sales of animals		415 00
" Life memberships		150 00
" Members' fees and dues	\$4,230 00	
" Admission receipts	37,533 96	
" Rents at Garden	1,200 00	
" Sundry receipts	631 23	
" Interest, discount, &c.	790 81	
" Sale of Guide Books	259 35	
" Citizen's relief fund	1,085 00	
Transferred to credit of profit and loss		45,730 35
		<u>\$58,706 69</u>

	Cr.	
By warrants paid for:		
Salaries and wages	\$17,358 79	
Office expenses	84 53	
Subsistence	6,375 53	
Advertising	2,231 54	
Insurance	209 70	
Fuel and lights	1,367 75	
Printing	422 20	
Expressage	147 85	
Repairs, &c.	1,402 35	
Extra labor and jobbing	963 35	
Hardware and tools	347 28	
Lumber	152 97	
Uniforms and equipments	223 75	
Water-rent	172 50	
Commissions on collections	942 52	
Sundries	561 27	
Transferred to debit of profit and loss		\$32,963 88
Purchase of animals	\$3,654 20	
Horticulture	311 62	
		<u>3,965 82</u>
Collateral loan		15,000 00
Balance on hand March 1st, 1888		6,776 99
		<u>\$58,706 69</u>

WILLIAM HACKER, *Treasurer.*

Examined and found correct,

F. T. FASSITT,
GALLOWAY C. MORRIS,
Committee on Audit.

APPENDIX B.

To the Board of Directors of the Zoological Society,

GENTLEMEN:—I submit to you herewith my report for the year ending on the 29th of February, 1888.

The number of animals in the collection on that day, with their estimated values, was as follows:—

306 Mammals	\$34,356
452 Birds	5,567
48 Batrachians and Reptiles	507
<hr/>	<hr/>
806	\$40,430
<hr/>	<hr/>

The accessions from all sources were:—

MAMMALS:—

Purchased	82
Presented	92
Born	42
	— 216

BIRDS:—

Purchased	98
Presented	68
Born	27
	— 193

BATRACHIANS AND REPTILES:—

Purchased	5
Presented	64
	— 69
	— 478
	<hr/>

Some of the noteworthy specimens received and those exhibited for the first time in the collection may be briefly referred to.

1. A pair of roe deer (*Cervus capreolus*) received from Germany on the 4th of March.

2. Two white eyebrowed guans (*Penelope superciliaris*), purchased on the 25th of March, from south-eastern Brazil.

3. Two small parrots in immature plumage, from an unknown locality, but which appear to be the green conure (*Conurus pavua*) from the West Indies.

4. A pair of melodious finches (*Phonipara canora*) from Cuba.

5. A female Indian antelope (*Antilope cervicapra*) imported to mate the fine male purchased in August, 1886.

6. Perhaps the most extraordinary animal ever shown in the collection was the echidna (*Tachyglossus hystrix*) purchased on the 12th of April. As is well known, the lowest mammalian group, the *monotremes*, to which this animal belongs, possess structural peculiarities strongly indicating relationship to birds and reptiles, and additional evidence of the closeness of this connection, has lately been given by the apparent confirmation of the previously suspected fact that both the echidna and its relative, the ornithorhynchus, lay eggs from which the young are hatched outside of the body of the mother, as in birds and many reptiles. The rarity as well as the remarkable nature of this animal caused it to be of great interest to zoologists, and it received as much observation as its subterranean habits would permit. Its native food being altogether of ants, and the structure of its mouth preventing it from taking solid food in any quantity, it was necessary to feed it on milk and eggs, on which it survived only some six weeks.

7. At the same time was received a black-footed penguin (*Spheniscus demersus*), from the south African coast. These birds, having altogether lost the power of flight, and being almost equally incapable of motion on land, have their swimming powers developed to a great degree. The specimen in question was placed in the vacant hippopotamus tank, and afforded much amusement to visitors by the contrast between its graceful and rapid motions in the water and its clumsy gait when on land. It steadily refused to eat, but was kept alive for some weeks by artificial feeding on the roe and finely shredded particles of fish.

8. A female brush-tailed kangaroo (*Petrogale pencillata*) was purchased in April, to complete a pair. These have since bred, and on the 22d of February a young one appeared for the first time in the mother's pouch.

9. Two vulpine phalangers (*Phalangista vulpina*), from Australia, were purchased in May.

10. One of the rarest of the canine group, the raccoon-like dog (*Canis procynoides*), a native of north-eastern Asia, was procured at the same time.

11. The excellent series of cockatoos was increased by the presentation of a red-vented cockatoo (*Cacatua philippinarum*), from the Philippine Islands.

12. A small hawk was purchased in May, which flew on board of a schooner in the Caribbean Sea. It unfortunately escaped from its cage before examination, but it appeared to be a specimen of the tiny hawk (*Accipiter tinus*), a native of upper Brazil and Guiana.

13. On the 6th of May a Spanish ichneumon (*Herpestes widdringtoni*) was purchased from a sailor. The species is found in southern Spain.

14. A Chinese jay-thrush (*Garrulax chinensis*) was also received.

15. A fine pair of yearling mule deer (*Cariacus macrotis*) were received from the west. This interesting species has not been represented in the Garden for some years, and special care has been taken towards overcoming the difficulties in its domestication which have invariably been met with in the east.

16. One of the brilliant group of hangnests was received in May from South America. Its identity is not certain, but it appears to be *Icterus mentalis*.

17. A female black-headed lemur (*Lemur brunneus*), received by purchase, was placed with the male previously owned, in the chimpanzee cage; which latter animal completed its fifth year in the Garden on the 21st of August.

18. A specimen of the American crocodile (*Crocodilus americanus*) was forwarded from Cuba by Mr. E. F. Cabada and presented to the Society.

19. About the same time a large hawk-billed turtle (*Eretmochelys imbricata*), from the south Atlantic coast, was also presented.

20. An Illiger's macaw (*Ara maracana*), which was new to the collection, was purchased on the 2d of June, and coincidentally another of the same species was received on the following day from an altogether different source.

21. A mealy amazon (*Chrysotis farinosa*), from South America, was also new to the collection.

22. The Indian mynah (*Acridotheres ginginianus*) was for the first time received. The birds of this interesting group are rarely brought to this country, and the Society is fortunate in having at the present time several other species besides the one in question.

23. A specimen of the malbrouck monkey (*Cercopithecus cynosurus*), of west Africa, was added in June to the variety already in the monkey house.

24. A pair of the beautiful blue-bonnet parrakeets (*Psephotus hæmatogaster*) were purchased in the same month. The species is from southern Australia and is rarely seen in zoological collections.

25. One of the rare additions is a yellow-billed sheath-bill (*Chionis alba*), a bird of extensive range through antarctic regions. It belongs to the group popularly known as "shore-birds," and seems to thrive well on the diet common to its fellows.

26. The Australian sacred ibis (*Ibis strictipennis*), a pair of which were purchased during the summer, closely resembles the African bird which is believed to have been an object of worship in ancient Egypt.

27. In June a short-tailed wallaby (*Halmaturus brachyurus*) was procured by purchase and added to the already extensive series of kangaroos in the winter-house for deer.

28. An Angolan vulture (*Gypohierax angolensis*), from western Africa, was received at the same time.

29. A specimen of Derby's opossum (*Didelphys derbiana*) was received from Honduras.

30. An adjutant stork, purchased on the 2d of August,

proved to be the hair-crested or Javan species (*Leptoptilus javanica*).

31. A black-billed tree duck (*Dendrocygna arborea*), from the Caicos Islands—part of the Bahama group—was received in the same month.

32. The white-collared mangabey (*Cercocebus collaria*), added in September, belongs to a species rarely seen among monkeys kept in captivity.

33. A pair of prong-horned antelopes (*Antilocapra americana*) were procured from Nebraska during the early fall, and have, so far, done better than any previously owned by the Society. The want of adaptability to changed conditions of life is strongly marked in this animal, as in all the herbivora, whose original range was west of the Mississippi River, and another attempt to domesticate it here is of special interest.

34. On the 30th of September a young male Burchell's zebra (*Equus burchelli*), purchased in Europe for the Society, arrived at the Garden.

35. A great white-crested cockatoo (*Cacatua cristata*), presented in October, is the first of the species in the collection.

36. A fine pair of African porcupines (*Hystrix cristata*) were purchased in the same month. The male is remarkable for his large size.

37. One of our native birds, rarely captured and domesticated with success, was also presented—the golden-crowned kinglet (*Regulus satrapa*).

38. A black scoter duck (*Edemia americana*), from the north Atlantic coast, was new to the collection.

39. A pair of St. Thomas conures (*Conurus xantholæmus*), from the island of that name, were procured by purchase.

40. A bird sent to the Garden in November, without anything to indicate its native region, has been identified as the sulphury tyran (*Tyrannus sulphureus*) of South America, one of the large and varied group of flycatchers.

41. One of the familiar birds of Europe, the cole titmouse (*Parus ater*), was received by presentation.

42. The moor monkey (*Semnopithecus maurus*), purchased in November, is one of the rare members of the tribe, and was a welcome addition. The species is found in Java.

43. The beautiful blossom-headed parrakeet (*Palæornis cyanocephalus*), from India, was represented by a pair purchased in December.

44. A male Persian gazelle (*Gazella subgutturosa*), procured in January, was placed with the nearly related dorcas gazelle, which has been in the Garden for a number of years.

45. A pair of fine rheas (*Rhea americana*), from South America, purchased, and

46. A pair of young llamas (*Lama peruana*), imported to renew our stock of these animals, arrived about the end of February.

The following animals were bred in the Garden :—

1 Common Macaque (*Macacus cynomolgus*), born 1st October.

4 Lions (*Felis leo*), born 18th of August and 22d of January.

6 Dingos (*Canis dingo*), born 5th December.

4 Prairie Wolves (*Canis latrans*), born 13th May.

2 Wapiti (*Cervus canadensis*), born 3d and 15th July.

3 Common Deer (*Cariacus virginianus*), born 13th April.

1 Fallow Deer (*Cervus dama*), born 8th June.

1 Hog Deer (*Cervus porcinus*), born 24th May.

2 Bison (*Bison americanus*), born 23d April and 5th May.

1 Indian Buffalo (*Bubalus buffelus*), born 6th November.

1 Zebu (*Bos indicus*), born 28th April.

1 Eland (*Oreas canna*), born 15th April.

1 Aoudad (*Ovis tragelaphus*), born 1st August.

2 Angora Goats (*Capra hircus* var.), born 28th and 30th March.

2 Beavers (*Castor fiber canadensis*), born 17th May.

9 Muskrats (*Fiber zibethicus*), born 20th May and 7th July.

1 Red Kangaroo (*Macropus rufus*), born 25th February.

1 Brush-tailed Kangaroo (*Petrogale pencillata*), born 22d February.

12 Egyptian Geese (*Chenalopex ægyptiaca*), born 20th May and 5th October.

The losses by death have not been extensive either in number or value, but included two of the oldest and best known of the inhabitants of the Garden—"Pompey," the fine African lion, which had in all probability passed over twenty-seven years in captivity; and "Bob," the male jaguar, purchased twelve years ago, when already old. Both of these animals succumbed to old age.

It has long seemed desirable to rid the north wing of the carnivora house of a number of temporary cages containing specimens of the smaller marsupials, carnivores, and rodents.

For this purpose the frame building formerly used as a reptile house, and of late for general storage, has been completely renovated and fitted with heating appliances and cages suitable for a small mammal house. The alterations were completed in August, at a total actual outlay of \$500, the greater part of the work having been done at odd times by the regular employés of the Society. The building being light, airy, and sunny, has added considerably to the attractions of the Garden, and at the same time supplies a long-felt necessity.

During the fall a large number of trees were planted, mainly for shade purposes, along the walks; most of them are large enough to be of immediate service. Trees were also planted in the deer park and cattle pens to replace those which have died. No other work, beyond current repairs, has been done during the year.

Respectfully,

ARTHUR ERWIN BROWN,

Genl. Supt.

ZOOLOGICAL GARDEN, 1st March, 1888.

